

TA03

 **ENTERED**



A Division of DataChem Laboratories, Inc.

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 ♦ PH: (970) 490-1511 ♦ FX: (970) 490-1522
www.paragonlabs.com

June 20, 2008

Ms. Kim Granzow
NMED DOE Oversight Bureau
134 State Rd. 4, Suite A
White Rock NM 87544

Re: Paragon Workorder: 08-05-195
Client Project Name: None Submitted
Client Project Number: 05.21.08-567(HWB SCI-1)

Dear Ms. Granzow:

Five water samples were received from NMED DOE Oversight Bureau on May 23, 2008.
The samples were scheduled for the following analyses:

Metals	pages 1-20	Isotopic Curium	pages 1-11
Perchlorate	pages 1-11	Isotopic Plutonium	pages 1-12
Neptunium-237	pages 1-12	Isotopic Americium	pages 1-10
GC/MS Volatiles	pages 1-16	GC/MS Semivolatiles	pages 1-16

The results for these analyses are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Paragon Analytics
Lance Steere
Senior Project Manager

LRS/mh
Enclosure (s): Report and CD

31499



Disk 7

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

Chain of Custody Record

0805/95

received via email
5/21/08

SHIP TO:
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524
(970) 490-1511

MAIL REPORT TO:
Kim Granzow
NMED-DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, New Mexico 87544
kgranzow@lanl.gov

Initials
KG
(505) 672-0447

BILL TO:
Dave Cobrain/Cathy Herrera
New Mexico Environ. Dept. Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505-2567
505-476-6055/505-476-6017

Project Number: 05.21.08-567(HWB SCI-1)
(Lab Invoice Use Only)

HWB Cost Code 002731703

Line Item No.
Price per Sample

C104 (Line Item # 560) \$175	Dissolved TAL Metals - U (Line Item #203) \$205		Acid Digestion for Metals (Line Item #221) \$15	VOCs (Line Item # 101) \$100	SVOCs (line item # 115) \$200 Please run 1,4-dioxane analysis	Total Transuranic Isotopes (Pu, Am, Cm, Po (low level))	Total cost = \$1,245
	F/NA	F/Nitric		NF/HCL	NF/NA	NF/Nitric	
560	203	221	101	115	309		
\$175.00	\$205.00	\$15.00	\$100.00	\$200.00	\$550.00		
Lab ID Number	NMED - Sample ID	Date	Time				
	SCI-1-5-21-08-C104	5/21/2008	11:50	X			1 L cubtainer
	SCI-1-5-21-08-MET	5/21/2008	11:50		X	X	500 ml naigene
	SCI-1-5-21-08-VOC	5/21/2008	11:50			X	2 40-ml VOA vials
	SCI-1-5-21-08-SVOC	5/21/2008	11:50		X		2 1-L amber glass
	SCI-1-5-21-08-RAD	5/21/2008	11:50			X	4 L cubtainer
<p>LANCE - IDs are corrected per our phone conversation 5/23/2008. Kim</p>							
Date/Time	Relinquished By:	Total No. of Samples		1	1	1	1

fixed
submitter
5/22/08

	Relinquished By: Total No. of Samples Sign Kim Granzow Print NMED DOE Oversight Bureau Co./Org.
	Received By: Sign Print Co./Org.

Comments: Lance - Please send the invoice to HWB c/o Dave Cobrain/Cathy Herrera . Also - Please run 1,4-dioxane analysis Thanks. Kim

QC Level: Standard
 QC Required: MS MSD Blank
 Turn Around Time (TAT): Standard

Place "X" in box if there are less than 5 total samples for shipping costs.

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA

Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?	<input checked="" type="radio"/> YES		NO
5. Are the COC and bottle labels complete and legible ?	<input checked="" type="radio"/> YES		NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES		NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?	<input checked="" type="radio"/> YES		NO
11. Were all samples placed in the proper containers for the requested analyses?	<input checked="" type="radio"/> YES		NO
12. Are all samples within holding times for the requested analyses?	<input checked="" type="radio"/> YES		NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES		NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A of 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?	<input checked="" type="radio"/> YES		NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: ML 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

8604 4512 4758

0200

Form 10 No

0805195

FedEx Retrieval Copy

From

Date: 11-18-05 Sender's FedEx Account Number: _____

Sender's Name: WALDEN INVESTMENTS Phone: 408 475 8047

Company: WALDEN INVESTMENTS

Address: 100 STATE ST Dept./Floor/Suite/Room: _____

City: GAITHERSBURG State: NV ZIP: 89414

Your Internal Billing Reference: _____

To

Recipient's Name: _____ Phone: _____

Company: _____

Recipient's Address: _____ Dept./Floor/Suite/Room: _____

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address: _____

To request a package be held at a specific FedEx location, print FedEx address here.

City: _____ State: _____ ZIP: _____



8604 4512 4758

4a Express Package Service *Packages up to 150 lbs.*

1 FedEx Priority Overnight *Next business morning** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected*

5 FedEx Standard Overnight *Next business afternoon** Saturday Delivery NOT available*

6 FedEx First Overnight *Earliest next business morning delivery to select locations** Saturday Delivery NOT available*

3 FedEx 2Day *Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected*

20 FedEx Express Saver *Third business day** Saturday Delivery NOT available*

* FedEx Envelope rate not available. Minimum charge: One-pound rate. ** To most locations.

4b Express Freight Service *Packages over 150 lbs.*

7 FedEx 1Day Freight* *Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected*

8 FedEx 2Day Freight *Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected*

83 FedEx 3Day Freight *Third business day** Saturday Delivery NOT available*

* Call for Confirmation. ** To most locations.

5 Packaging

6 FedEx Envelope* 2 FedEx Pak* *Includes FedEx Small Pak, FedEx Large Pak, and FedEx Super Pak*

4 FedEx Tube 1 Other ** Declared value limit \$500.*

6 Special Handling

3 SATURDAY Delivery *Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight*

1 HOLD Weekday at FedEx Location *Not available for FedEx First Overnight*

31 HOLD Saturday at FedEx Location *Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations*

Does this shipment contain dangerous goods? *One box must be checked.*

No 4 Yes *As per attached Shipper's Declaration*

No 4 Yes *Shipper's Declaration not required*

6 Dry Ice *Device, UN 1845*

Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: *Enter FedEx Acct. No. or Credit Card No. below.*

1 Sender Acct No. in Section 1 will be billed

2 Recipient 3 Third Party 4 Credit Card 5 Cash/Check

Total Packages 5 **Total Weight** _____ **Total Charges** _____

* Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

8 NEW Residential Delivery Signature Options *If you require a signature, check Direct or Indirect.*

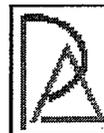
No Signature Required *Package may be left without obtaining a signature for delivery*

10 Direct Signature *Anyone at recipient's address may sign for delivery. Fee applies.*

34 Indirect Signature *If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.*

520

Rev. Date 8/05-Part #150281-0104-2005 FedEx-PRINTED IN U.S.A. SRY



Paragon Analytics

Radiochemistry Case Narrative

Neptunium-237

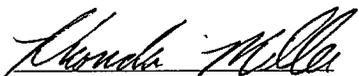
NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

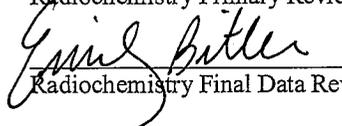
PA WO 0805195

1. This report consists of the analytical results for one water sample received by Paragon on 05/23/08.
2. This sample was prepared according to procedures PA SOP765R4 and PA SOP776R11. Modifications were made to the method as described on QASS 316066.
3. The sample was analyzed for the presence of Np-237 according to procedure PA SOP714R11. Chemical yield data are generated from the results of parallel analysis of splits of each analytical sample spiked with NIST traceable Np-237. The analysis was completed on 05/29/08.
4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
5. Due to insufficient sample volume, a laboratory control sample duplicate (LCSD) was prepared in lieu of a prep batch duplicate.
6. Np-237 activity is reported in the associated method blank above the minimum detectable concentration value. The measured blank activity is below the requested MDC (0.05 pCi/L). Results are acceptable according to PA SOP715R15, and are submitted without further qualification. This sample is identified with a "B3" flag.
7. No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.


Rhonda Miller
Radiochemistry Primary Reviewer


Date


Gavin Butler
Radiochemistry Final Data Review


Date

Paragon Analytics

A Division of DataChem Laboratories, Inc.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source: note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service *Packages up to 150 lbs.*

1 **FedEx Priority Overnight**
 Next business morning** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 **FedEx Standard Overnight**
 Next business afternoon* Saturday Delivery NOT available.

6 **FedEx First Overnight**
 Earliest next business morning delivery to select locations* Saturday Delivery NOT available.

3 **FedEx 2Day**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx Envelope rate not available. Minimum charge: One-pound rate.

20 **FedEx Express Saver**
 Third business day** Saturday Delivery NOT available.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

7 **FedEx 1Day Freight***
 Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

8 **FedEx 2Day Freight**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

83 **FedEx 3Day Freight**
 Third business day** Saturday Delivery NOT available.

* Call for Confirmation. ** To most locations.

5 Packaging

6 **FedEx Envelope***

2 **FedEx Pak***
 Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sticker Pak.

4 **FedEx Tube**

1 **Other**

* Declared value limit \$500.

6 Special Handling *Include FedEx address in Section 3.*

3 **SATURDAY Delivery**
 Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.

1 **HOLD Weekday at FedEx Location**
 Not available for FedEx First Overnight.

31 **HOLD Saturday at FedEx Location**
 Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods?
 One box must be checked.
 No 4 Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required.

6 **Dry Ice**
 Dry Ice 3, UN 1845. Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.

1 Sender Acct. No. in Section 1 will be billed.

2 Recipient

3 Third Party

4 Credit Card

5 Cash/Check

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

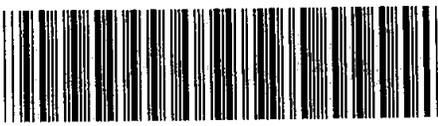
8 NEW Residential Delivery Signature Options *If you require a signature, check Direct or Indirect.*

No Signature Required
 Package may be left without obtaining a signature for delivery.

10 **Direct Signature**
 Anyone at recipient's address may sign for delivery. Fee applies.

34 **Indirect Signature**
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

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8604 4512 4758

Handwritten: 140-5.80

QUALITY ASSURANCE SUMMARY SHEET

PAI W.O. # / BATCH Generic
TEST Np
METHOD Prep
SOP/REV (PREP) 765/4
SOP/REV (ANAL) _____

Briefly document any QA or other problems or deviations associated with the analysis of samples. Problems could result from: log-in, color, odor, dilution, consistency, scheduling, equipment, or instrumentation, or may include documentation of minor deviations necessary due to unique DQO's or sample characteristics.

In order to improve spectral quality in Neptunium analysis 10 dpm of Np 237 was added to the LCS instead of the 5dpm instructed in SOP 765/4 section 8.i.2.

JS 9/12/06

TECHNICIAN/ANALYST Judith Bearman

DATE 9/12/06

DEPARTMENT MANAGER *[Signature]*

DATE 9/12/06

316066

Neptunium-237 By Alpha Spectroscopy

PAI 714 Rev 11

Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-1MB

Sample Matrix: WATER
Prep SOP: PAI 765 Rev 4
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 29-May-08

Prep Batch: AS080527-1
QCBatchID: AS080527-1-1
Run ID: AS080527-1A
Count Time: 1000 minutes

Final Aliquot: 1000 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13994-20-2	Np-237	0.0051 +/- 0.0086	0.0046	0.05	B3

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Np-237+	13.88	11.1	pCi/l	80.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: NP0805195-1

Neptunium-237 By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-1LCS

Sample Matrix: WATER
Prep SOP: PAI 765 Rev 4
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 29-May-08

Prep Batch: AS080527-1
QCBatchID: AS080527-1-1
Run ID: AS080527-1A
Count Time: 1000 minutes

Final Aliquot: 1000 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13994-20-2	Np-237	4.62 +/- 1.81	0.00500	4.63	99.8	65 - 135	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Np-237+	13.88	11.1	pCi/l	80.0	40 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: NP0805195-1

Neptunium-237 By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 765 Rev 4
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 29-May-08

Prep Batch: AS080527-1
QCBatchID: AS080527-1-1
Run ID: AS080527-1A
Count Time: 1000 minutes

Final Aliquot: 1000 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13994-20-2	Np-237	4.49 +/- 1.76	0.0214	4.63	97.0	65 - 135	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Np-237+	13.88	11.1	pCi/l	80.0	40 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: NP0805195-1

Neptunium-237 By Alpha Spectroscopy

PAI 714 Rev 11

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	
Lab ID:	AS080527-1LCSD

Sample Matrix: WATER

Prep SOP: PAI 765 Rev 4

Date Collected: 27-May-08

Date Prepared: 27-May-08

Date Analyzed: 29-May-08

Prep Batch: AS080527-1

QCBatchID: AS080527-1-1

Run ID: AS080527-1A

Count Time: 1000 minutes

Final Aliquot: 1000 ml

Prep Basis: Unfiltered

Moisture(%): NA

Result Units: pCi/l

File Name: Spectrum #1

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
13994-20-2	Np-237	4.6 +/- 1.8	4.5 +/- 1.8	0.05	2.13	P

Comments:

Duplicate Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- D - DER is greater than Control Limit of 2.13
- LT - Result is less than Request MDC, greater than sample specific MDC
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: NP0805195-1

Neptunium-237 By Alpha Spectroscopy

PAI 714 Rev 11

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-RAD
Lab ID:	0805195-5

Sample Matrix: WATER
Prep SOP: PAI 765 Rev 4
Date Collected: 21-May-08
Date Prepared: 27-May-08
Date Analyzed: 29-May-08

Prep Batch: AS080527-1
QCBatchID: AS080527-1-1
Run ID: AS080527-1A
Count Time: 1000 minutes
Report Basis: Unfiltered

Final Aliquot: 1000 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

Analysis ReqCode: 309

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13994-20-2	Np-237	0.0092 +/- 0.0097	0.0050	0.05	LT

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Np-237+	13.88	10.9	pCi/l	78.8	40 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

Data Package ID: NP0805195-1

Paragon Analytics

METALS CASE NARRATIVE

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

Order Number - 0805195

1. This report consists of 1 water sample.
2. The sample was received cool and intact on 05/23/08.
3. The sample was to be analyzed for dissolved metals. The sample had been filtered prior to receipt, and had a pH less than 2 upon receipt.
4. The sample was prepared for analysis based on SW-846, 3rd Edition procedures.

For analysis by Trace ICP and ICP-MS, the sample was digested following method 3005A and PA SOP 806 Rev. 13.

The sample was prepared for ICP-MS analysis of arsenic and selenium by passing the digested sample and associated QC through a cation exchange column. The cation exchange column removes cations from the matrix and eliminates the CaCl⁺ (mass 75) interferences on arsenic.

For analysis by Cold Vapor AA (CVAA), the sample was digested following method 7470A and PA SOP 812 Rev. 14.

5. The sample was analyzed following SW-846, 3rd Edition procedures.

Analysis by Trace ICP followed method 6010B and PA SOP 834 Rev. 7.

The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution.

During sample analysis concentrations are computed by the software and the results are printed in mg/L. The instrument software does not provide a printout which gives both intensity and concentration. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2nd source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations at two times those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

Analysis by ICP-MS followed method 6020A and PA SOP 827 Rev. 6.

The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution. A calibration equation relating instrument response to concentration is developed by the instrument software. The equation is a higher order polynomial. This type of equation is used to improve quantitation accuracy at lower concentrations where the relationship between concentration and instrument response is non-linear.

During sample analysis concentrations are computed by the software and the results are printed in ug/L. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2nd source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations near the middle of the analytical range but different than those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

Analysis by CVAA followed method 7470A and PA SOP 812 Rev. 14.

The relationship between intensity and concentration is determined daily, prior to sample analysis. At least five standards and a blank solution are analyzed to establish the calibration curve. The instrument software performs a linear regression to fit the calibration data to a curve of the form:

$$\text{conc.} = B * I + C$$

where: conc. = concentration

B = slope coefficient

I = intensity

C = intercept coefficient

A printout summarizing the calibration data supplies the calibration curve and correlation coefficient. During sample analysis both intensity and concentration values are printed. Dilutions are made for concentrations above

the highest calibration standard. No results are taken from extrapolations above the highest standard.

6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The sample was prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch. There were not more than 20 samples in each digestion batch.
 - The preparation (method) blank associated with each digestion batch was below the practical quantitation limit for each requested analyte.
 - The laboratory control sample associated with each digestion batch was within the acceptance limits. This indicates complete digestion according to the method.
 - All initial and continuing calibration blanks associated with each analytical batch were below the practical quantitation limits for the requested analytes.
 - All initial and continuing calibration verifications associated with each analytical batch were within the acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.
 - The high standard readbacks associated with Method 6010B and 6020A analyses were within acceptance criteria.
 - The interference check samples associated with Method 6010B were within acceptance criteria.
 - The interference check samples associated with Method 6020A were analyzed.
9. Matrix specific quality control procedures.

Sample 0805195-2 was designated as the quality control sample for the mercury analysis. Per method requirements, matrix QC was performed for the Trace ICP and ICP-MS analyses. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with the mercury batch. All acceptance criteria for accuracy were met.
- A sample duplicate and matrix spike duplicate were digested and analyzed with the mercury batch. All acceptance criteria for precision were met.

10. It is a standard PA practice that samples for ICP-MS are analyzed at a dilution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Knodel
Emily Knodel
Inorganics Primary Data Reviewer

06-18-08
Date

Boy Suh
Inorganics Final Data Reviewer

6/18/08
Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A “B” is entered if the reported value was obtained from a reading that was less than the Practical Quantitation Limit but greater than or equal to the Instrument Detection Limit (IDL). If the analyte was analyzed for but not detected a “U” is entered.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M - Duplicate injection precision was not met.
 - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

8604 4512 4758

0200

Form 10 No.

0805195

FedEx Retrieval Copy

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service *Packages up to 150 lbs.*

1 **FedEx Priority Overnight**
 Next business morning** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 **FedEx Standard Overnight**
 Next business afternoon* Saturday Delivery NOT available.

6 **FedEx First Overnight**
 Earliest next business morning delivery to select locations* Saturday Delivery NOT available.

3 **FedEx 2Day**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx Envelope rate not available. Minimum charge: One-pound rate.

20 **FedEx Express Saver**
 Third business day** Saturday Delivery NOT available.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

7 **FedEx 1Day Freight***
 Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

8 **FedEx 2Day Freight**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

83 **FedEx 3Day Freight**
 Third business day** Saturday Delivery NOT available.

* Call for Confirmation. ** To most locations.

5 Packaging

6 **FedEx Envelope***

2 **FedEx Pak***
 Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sticker Pak.

4 **FedEx Tube**

1 **Other**

* Declared value limit \$500.

6 Special Handling *Include FedEx address in Section 3.*

3 **SATURDAY Delivery**
 Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.

1 **HOLD Weekday at FedEx Location**
 Not available for FedEx First Overnight.

31 **HOLD Saturday at FedEx Location**
 Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods?
 One box must be checked.
 No 4 Yes
 As per attached Shipper's Declaration. Yes Shipper's Declaration not required.

6 **Dry Ice**
 Dry Ice 3, UN 1845 _____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging. **Cargo Aircraft Only**

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.

1 **Sender** Acct. No. in Section 1 will be billed.

2 **Recipient**

3 **Third Party**

4 **Credit Card**

5 **Cash/Check**

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

8 NEW Residential Delivery Signature Options *If you require a signature, check Direct or Indirect.*

No Signature Required
 Package may be left without obtaining a signature for delivery.

10 **Direct Signature**
 Anyone at recipient's address may sign for delivery. Fee applies.

34 **Indirect Signature**
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID: SCI-1-5-21-08-MET

Lab ID: 0805195-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 29-May-08

Date Analyzed: 02-Jun-08

Prep Method: SW3005 Rev A

Prep Batch: IP080529-1

QC Batch ID: IP080529-1-1

Run ID: IT080602-2A7

Cleanup: NONE

Basis: As Received

File Name: 080602A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

Analysis ReqCode: 203

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	0.038	0.1	0.038	U	
7440-39-3	BARIUM	1	0.039	0.002	0.000095		
7440-41-7	BERYLLIUM	1	0.00042	0.001	0.00042	U	
7440-70-2	CALCIUM	1	80	0.5	0.0038		
7440-47-3	CHROMIUM	1	0.015	0.005	0.00057		
7440-48-4	COBALT	1	0.00076	0.002	0.00076	U	
7440-50-8	COPPER	1	0.0029	0.002	0.00059		
7439-89-6	IRON	1	0.0044	0.05	0.0029	B	
7439-95-4	MAGNESIUM	1	11	0.5	0.0047		
7439-96-5	MANGANESE	1	0.00045	0.002	0.00013	B	
7440-02-0	NICKEL	1	0.0049	0.005	0.00068	B	
7440-09-7	POTASSIUM	1	1.8	0.5	0.044		
7440-23-5	SODIUM	1	48	0.5	0.0026		
7440-62-2	VANADIUM	1	0.0016	0.005	0.00043	B	
7440-66-6	ZINC	1	0.0038	0.005	0.0012	B	

Data Package ID: IT0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

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LIMS Version: 6.160A

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID: SCI-1-5-21-08-MET

Lab ID: 0805195-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 29-May-08

Date Analyzed: 30-May-08

Prep Method: SW3005 Rev A

Prep Batch: IP080529-1

QC Batch ID: IP080529-1-2

Run ID: IM080530-1A2

Cleanup: NONE

Basis: As Received

File Name: 30MAY08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

Analysis ReqCode: 203

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	0.000049	0.0003	0.000049	U	
7440-38-2	ARSENIC	10	0.0021	0.002	0.00022		
7440-43-9	CADMIUM	10	0.000055	0.0003	0.000055	U	
7439-92-1	LEAD	10	0.000083	0.0005	0.000026	B	
7782-49-2	SELENIUM	10	0.0004	0.001	0.0004	U	
7440-22-4	SILVER	10	0.000051	0.0001	0.000024	B	
7440-28-0	THALLIUM	10	0.000024	0.0002	0.000011	B	
7440-61-1	URANIUM	10	0.0024	0.0001	0.0000035		

Data Package ID: IM0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

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LIMS Version: 6.160A

Dissolved Mercury

Method SW7470A

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID: SCI-1-5-21-08-MET

Lab ID: 0805195-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 28-May-08

Date Analyzed: 28-May-08

Prep Method: METHOD

Prep Batch: HG080528-1

QCBatchID: HG080528-1-1

Run ID: HG080528-2A3

Cleanup: NONE

Basis: As Received

File Name: 08052800

Sample Aliquot: 20 g

Final Volume: 20 g

Result Units: mg/l

Clean DF: 1

Analysis ReqCode: 203

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.000021	0.0001	0.000016	B	

Data Package ID: HG0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

LIMS Version: 6.160A

Page 1 of 1

ICP Metals

Method SW6010B

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: IP080529-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 29-May-08

Date Analyzed: 02-Jun-08

Prep Batch: IP080529-1

QC Batch ID: IP080529-1-1

Run ID: IT080602-2A7

Cleanup: NONE

Basis: N/A

File Name: 080602A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	0.038	0.1	0.038	U	
7440-39-3	BARIUM	1	0.00013	0.002	0.000095	B	
7440-41-7	BERYLLIUM	1	0.00042	0.001	0.00042	U	
7440-70-2	CALCIUM	1	-0.019	0.5	0.0038	B	
7440-47-3	CHROMIUM	1	0.00057	0.005	0.00057	U	
7440-48-4	COBALT	1	0.00076	0.002	0.00076	U	
7440-50-8	COPPER	1	0.00069	0.002	0.00059	B	
7439-89-6	IRON	1	0.0029	0.05	0.0029	U	
7439-95-4	MAGNESIUM	1	-0.016	0.5	0.0047	B	
7439-96-5	MANGANESE	1	0.00013	0.002	0.00013	U	
7440-02-0	NICKEL	1	0.00068	0.005	0.00068	U	
7440-09-7	POTASSIUM	1	0.13	0.5	0.044	B	
7440-23-5	SODIUM	1	0.16	0.5	0.0026	B	
7440-62-2	VANADIUM	1	0.00043	0.005	0.00043	U	
7440-66-6	ZINC	1	0.0018	0.005	0.0012	B	

Data Package ID: IT0805195-1

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: IP080529-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05/29/2008

Date Analyzed: 06/02/2008

Prep Method: SW3005A

Prep Batch: IP080529-1

QCBatchID: IP080529-1-1

Run ID: IT080602-2A7

Cleanup: NONE

Basis: N/A

File Name: 080602A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	2	2	0.1		100	80 - 120%
7440-39-3	BARIUM	2	1.94	0.002		97	80 - 120%
7440-41-7	BERYLLIUM	0.05	0.0486	0.001		97	80 - 120%
7440-70-2	CALCIUM	40	39.9	0.5		100	80 - 120%
7440-47-3	CHROMIUM	0.2	0.2	0.005		100	80 - 120%
7440-48-4	COBALT	0.5	0.481	0.002		96	80 - 120%
7440-50-8	COPPER	0.25	0.252	0.002		101	80 - 120%
7439-89-6	IRON	1	0.938	0.05		94	80 - 120%
7439-95-4	MAGNESIUM	40	39.6	0.5		99	80 - 120%
7439-96-5	MANGANESE	0.5	0.476	0.002		95	80 - 120%
7440-02-0	NICKEL	0.5	0.482	0.005		96	80 - 120%
7440-09-7	POTASSIUM	40	38.3	0.5		96	80 - 120%
7440-23-5	SODIUM	40	38.4	0.5		96	80 - 120%
7440-62-2	VANADIUM	0.5	0.501	0.005		100	80 - 120%
7440-66-6	ZINC	0.5	0.49	0.005		98	80 - 120%

Data Package ID: IT0805195-1

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: IP080529-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 29-May-08

Date Analyzed: 30-May-08

Prep Batch: IP080529-1

QC Batch ID: IP080529-1-2

Run ID: IM080530-1A2

Cleanup: NONE

Basis: N/A

File Name: 30MAY08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	0.000062	0.0003	0.000049	B	
7440-38-2	ARSENIC	10	0.00022	0.002	0.00022	U	
7440-43-9	CADMIUM	10	0.000055	0.0003	0.000055	U	
7439-92-1	LEAD	10	0.00014	0.0005	0.000026	B	
7782-49-2	SELENIUM	10	0.0004	0.001	0.0004	U	
7440-22-4	SILVER	10	0.000031	0.0001	0.000024	B	
7440-28-0	THALLIUM	10	0.000022	0.0002	0.000011	B	
7440-61-1	URANIUM	10	0.000023	0.0001	0.0000035	B	

Data Package ID: IM0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

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LIMS Version: 6.160A

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: IM080529-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05/29/2008

Date Analyzed: 05/30/2008

Prep Method: SW3005A

Prep Batch: IP080529-1

QCBatchID: IP080529-1-2

Run ID: IM080530-1A2

Cleanup: NONE

Basis: N/A

File Name: 30MAY08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-36-0	ANTIMONY	0.02	0.0211	0.0003		106	80 - 120%
7440-38-2	ARSENIC	0.04	0.0392	0.002		98	80 - 120%
7440-43-9	CADMIUM	0.02	0.0209	0.0003		105	80 - 120%
7439-92-1	LEAD	0.1	0.11	0.0005		110	80 - 120%
7782-49-2	SELENIUM	0.04	0.0407	0.001		102	80 - 120%
7440-22-4	SILVER	0.02	0.0211	0.0001		106	80 - 120%
7440-28-0	THALLIUM	0.001	0.000962	0.0002		96	80 - 120%
7440-61-1	URANIUM	0.02	0.0214	0.0001		107	80 - 120%

Data Package ID: IM0805195-1

Mercury

Method SW7470A

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: HG080528-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 28-May-08

Date Analyzed: 28-May-08

Prep Batch: HG080528-1

QCBatchID: HG080528-1-1

Run ID: HG080528-2A3

Cleanup: NONE

Basis: N/A

File Name: 08052800

Sample Aliquot: 20 g

Final Volume: 20 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.000016	0.0001	0.000016	U	

Data Package ID: HG0805195-1

Mercury

Method SW7470A

Laboratory Control Sample

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: HG080528-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05/28/2008

Date Analyzed: 05/28/2008

Prep Method: METHOD

Prep Batch: HG080528-1

QCBatchID: HG080528-1-1

Run ID: HG080528-2A3

Cleanup: NONE

Basis: N/A

File Name: 08052800

Sample Aliquot: 20 g

Final Volume: 20 g

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	0.001	0.000944	0.0001		94	80 - 120%

Data Package ID: HG0805195-1

Mercury

Method SW7470A

Matrix Spike And Matrix Spike Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID: SCI-1-5-21-08-MET

LabID: 0805195-2MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 28-May-08

Date Analyzed: 28-May-08

Prep Method: METHOD

Prep Batch: HG080528-1

QCBatchID: HG080528-1-1

Run ID: HG080528-2A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 20 g

Final Volume: 20 g

Result Units: mg/l

File Name: 08052800

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.000021	B	0.00203		0.0001	0.002	100	80 - 120%

Field ID: SCI-1-5-21-08-MET

LabID: 0805195-2MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 28-May-08

Date Analyzed: 28-May-08

Prep Method: METHOD

Prep Batch: HG080528-1

QCBatchID: HG080528-1-1

Run ID: HG080528-2A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 20 g

Final Volume: 20 g

Result Units: mg/l

File Name: 08052800

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	0.00202		0.002	100	0.0001	20	0

Data Package ID: HG0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

LIMS Version: 6.160A

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Paragon Analytics

Radiochemistry Case Narrative

Isotopic Plutonium

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

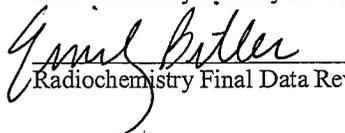
PA WO 0805195

1. This report consists of the analytical results for one water sample received by Paragon on 05/23/08.
2. This sample was prepared according to procedures PA SOP776R11, PA SOP777R9, and PA SOP778R12. Modifications were made to the method as described on QASS 357739. Due to low client detection limits, the sample was prepared at an increased 1800mL aliquot.
3. The sample was analyzed for the presence of isotopic plutonium according to procedure PA SOP714R11. The analysis was completed on 05/30/08.
4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
5. Pu-240 is indistinguishable from Pu-239. In this report, any plutonium in this region of interest will be reported as Pu-239/240.
6. Due to insufficient sample volume, a laboratory control sample duplicate (LCSD) was prepared in lieu of a prep batch duplicate.
7. No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.


Rhonda Miller
Radiochemistry Primary Reviewer


Date


Gerald Butler
Radiochemistry Final Data Review


Date

Paragon Analytics

A Division of DataChem Laboratories, Inc.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source: note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service Packages up to 150 lbs.
 1 **FedEx Priority Overnight** Next business morning* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 5 **FedEx Standard Overnight** Next business afternoon* Saturday Delivery NOT available.
 6 **FedEx First Overnight** Earliest next business morning delivery to select locations* Saturday Delivery NOT available.
 3 **FedEx 2Day** Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 20 **FedEx Express Saver** Third business day** Saturday Delivery NOT available.
 * To most locations. FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs.
 7 **FedEx 1Day Freight*** Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 8 **FedEx 2Day Freight** Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 83 **FedEx 3Day Freight** Third business day** Saturday Delivery NOT available.
 * Call for Confirmation. ** To most locations.

5 Packaging
 6 **FedEx Envelope*** 2 **FedEx Pak*** Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sticker Pak. 4 **FedEx Tube** 1 **Other**
 * Declared value limit \$500.

6 Special Handling Include FedEx address in Section 3.
 3 **SATURDAY Delivery** Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
 1 **HOLD Weekday at FedEx Location** Not available for FedEx First Overnight.
 31 **HOLD Saturday at FedEx Location** Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
 Does this shipment contain dangerous goods? One box must be checked.
 No 4 Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required.
 6 **Dry Ice** Dry Ice 3, UN 1845. **Cargo Aircraft Only**
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.
 1 **Sender** Acct. No. in Section 1 will be billed. 2 **Recipient** 3 **Third Party** 4 **Credit Card** 5 **Cash/Check**

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.
8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

No Signature Required Package may be left without obtaining a signature for delivery.
 10 **Direct Signature** Anyone at recipient's address may sign for delivery. Fee applies.
 34 **Indirect Signature** If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.
 Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Handwritten: 14, 5.8°C

QUALITY ASSURANCE SUMMARY SHEET

PAR W.O. # / BATCH GENERIC
TEST Pu
METHOD PREP
SOP/REV (PREP) 778/12
SOP/REV (ANAL) _____

Briefly document any QA or other problems or deviations associated with the analysis of samples. Problems could result from: log-in, color, odor, dilution, consistency, scheduling, equipment, or instrumentation, or may include documentation of minor deviations necessary due to unique DQO's or sample characteristics.

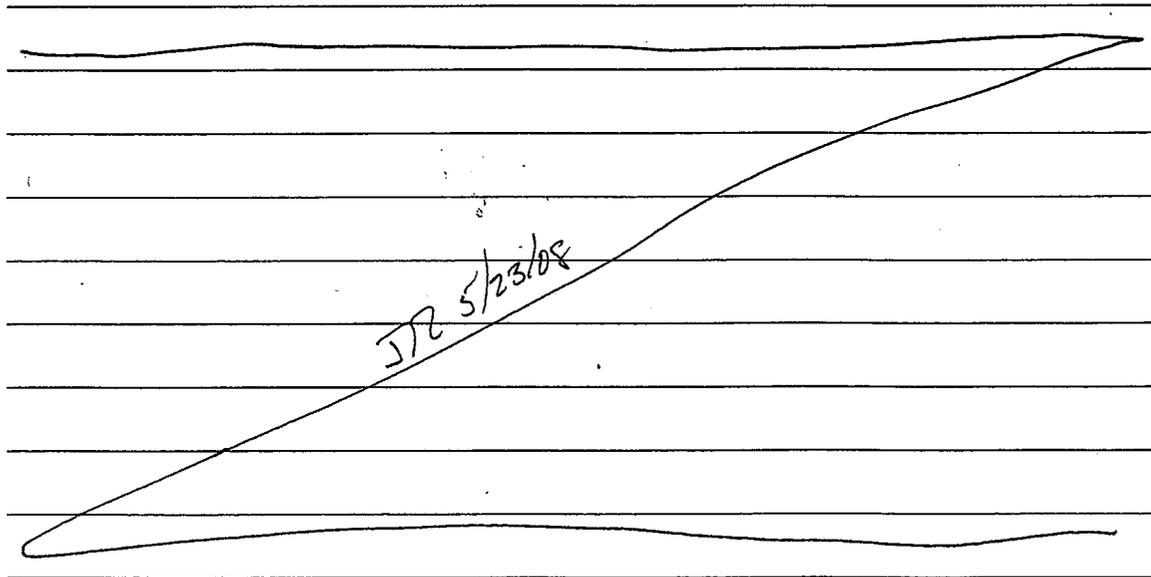
SR 5/23/08

SOP 778/12 step 8.1.9 states that, when analyzing for Pu, 4 extra 9N HCl rinses must be performed to remove any residual Th interferent from the chloride column. After running a trial by collecting the extra 4 9N HCl rinses into a clean cup and analyzing for Th isotopes, it was determined that little to no detectable Th was present. Following a chloride column, a nitrate column is performed to also remove any remaining Th interferent. Therefore, it has been determined that the 4 extra 9N HCl rinses are unnecessary and will be excluded from the chloride column procedure.

SR 5/23/08

SR 5/23/08

SR 5/23/08



TECHNICIAN/ANALYST *[Signature]*

DATE 5/23/08

DEPARTMENT MANAGER *[Signature]*

DATE 5/23/08

357739

FORM 302r6.doc (4/22/04)

Isotopic Plutonium By Alpha Spectroscopy

PAI 714 Rev 11

Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3MB	Sample Matrix: WATER	Prep Batch: AS080527-3	Final Aliquot: 1800 ml
	Prep SOP: PAI 778 Rev 12	QCBatchID: AS080527-3-1	Result Units: pCi/l
	Date Collected: 27-May-08	Run ID: AS080527-3A	File Name: Spectrum #1
	Date Prepared: 27-May-08	Count Time: 1000 minutes	
	Date Analyzed: 30-May-08		

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13981-16-3	Pu-238	-0.0011 +/- 0.0055	0.010	0.03	U
10-12-8	Pu-239/240	0.0067 +/- 0.0064	0.0083	0.03	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Pu-242	1.251	0.908	pCi/l	72.6	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

- M - Requested MDC not met.
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: PU0805195-1

Isotopic Plutonium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCS

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3A
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10-12-8	Pu-239/240	1.26 +/- 0.211	0.00963	1.31	96.3	82 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Pu-242	1.251	0.954	pCi/l	76.2	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: PU0805195-1

Isotopic Plutonium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3A
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10-12-8	Pu-239/240	1.27 +/- 0.215	0.0105	1.31	97.1	82 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Pu-242	1.251	0.978	pCi/l	78.2	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: PU0805195-1

Isotopic Plutonium By Alpha Spectroscopy

PAI 714 Rev 11

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	
Lab ID:	AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3A
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
10-12-8	Pu-239/240	1.3 +/- 0.21	1.3 +/- 0.22	0.04	2.13	P

Comments:

Duplicate Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- D - DER is greater than Control Limit of 2.13
- LT - Result is less than Request MDC, greater than sample specific MDC
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: PU0805195-1

Isotopic Plutonium By Alpha Spectroscopy

PAI 714 Rev 11

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-RAD
Lab ID:	0805195-5

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 21-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3A
Count Time: 1000 minutes
Report Basis: Unfiltered

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

Analysis ReqCode: 309

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13981-16-3	Pu-238	0 +/- 0.0055	0.010	0.03	U
10-12-8	Pu-239/240	0.0022 +/- 0.0055	0.0082	0.03	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Pu-242	1.251	0.901	pCi/l	72.0	30 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

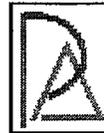
Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *PU0805195-1*



Paragon Analytics

Radiochemistry Case Narrative

Isotopic Curium

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

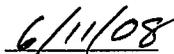
PA WO 0805195

1. This report consists of the analytical results for one water sample received by Paragon on 05/23/08.
2. This sample was prepared according to procedures PA SOP776R11, PA SOP778R12 and PA SOP751R2. Due to low client detection limits, the sample was prepared at an increased aliquot of 1800 ml.
3. The sample was analyzed for the presence of isotopic curium according to procedure PA SOP714R11. The analysis was completed on 06/02/08.
4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
5. Due to insufficient sample volume, a laboratory control sample duplicate (LCSD) was prepared in lieu of a prep batch duplicate.
6. No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

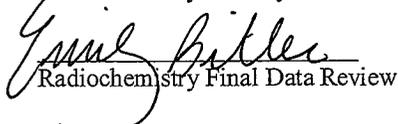
The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



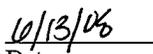
Rhonda Miller
Radiochemistry Primary Reviewer



Date



Yvonne Butler
Radiochemistry Final Data Review



Date

Paragon Analytics

A Division of DataChem Laboratories, Inc.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source: note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service Packages up to 150 lbs.
 1 **FedEx Priority Overnight** Next business morning* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 5 **FedEx Standard Overnight** Next business afternoon* Saturday Delivery NOT available.
 6 **FedEx First Overnight** Earliest next business morning delivery to select locations* Saturday Delivery NOT available.
 3 **FedEx 2Day** Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 20 **FedEx Express Saver** Third business day** Saturday Delivery NOT available.
 * To most locations. FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs.
 7 **FedEx 1Day Freight*** Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 8 **FedEx 2Day Freight** Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 83 **FedEx 3Day Freight** Third business day** Saturday Delivery NOT available.
 * Call for Confirmation. ** To most locations.

5 Packaging
 6 **FedEx Envelope*** 2 **FedEx Pak*** Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sticker Pak. B **FedEx Tube** 4 **FedEx Tube** 1 **Other**
 * Declared value limit \$500.

6 Special Handling Include FedEx address in Section 3.
 3 **SATURDAY Delivery** Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
 1 **HOLD Weekday at FedEx Location** Not available for FedEx First Overnight.
 31 **HOLD Saturday at FedEx Location** Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
 Does this shipment contain dangerous goods? One box must be checked.
 No 4 Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required.
 6 **Dry Ice** Dry Ice 3, UN 1845 _____ kg. **Cargo Aircraft Only**
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.
 1 **Sender** Acct. No. in Section 1 will be billed. 2 **Recipient** 3 **Third Party** 4 **Credit Card** 5 **Cash/Check**

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.
 No Signature Required Package may be left without obtaining a signature for delivery.
 10 **Direct Signature** Anyone at recipient's address may sign for delivery. Fee applies.
 34 **Indirect Signature** If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.
 Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Handwritten: 14, 5.8°C

Isotopic Curium By Alpha Spectroscopy

PAI 714 Rev 11

Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3MB	Sample Matrix: WATER	Prep Batch: AS080527-3	Final Aliquot: 1800 ml
	Prep SOP: PAI 778 Rev 12	QCBatchID: AS080527-3-1	Result Units: pCi/l
	Date Collected: 27-May-08	Run ID: AS080527-3C	File Name: Spectrum #1
	Date Prepared: 27-May-08	Count Time: 1000 minutes	
	Date Analyzed: 02-Jun-08		

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13981-15-2	Cm-244	0.0012 +/- 0.0058	0.0032	0.05	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.855	pCi/l	68.4	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

- M - Requested MDC not met.
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: CM0805195-1

Isotopic Curium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCS

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 02-Jun-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3C
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13981-15-2	Cm-244	1.53 +/- 0.281	0.00569	1.56	98.2	79 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.485	pCi/l	38.8	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: CM0805195-1

Isotopic Curium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3C
Count Time: 600 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13981-15-2	Cm-244	1.38 +/- 0.248	0.0415	1.56	88.6	79 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.964	pCi/l	77.1	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: CM0805195-1

Isotopic Curium By Alpha Spectroscopy

PAI 714 Rev 11

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	
Lab ID:	AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3C
Count Time: 600 minutes

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
13981-15-2	Cm-244	1.5 +/- 0.28	1.4 +/- 0.25	0.40	2.13	P

Comments:

Duplicate Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- D - DER is greater than Control Limit of 2.13
- LT - Result is less than Request MDC, greater than sample specific MDC
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: CM0805195-1

Isotopic Curium By Alpha Spectroscopy

PAI 714 Rev 11

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-RAD
Lab ID:	0805195-5

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 21-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3C
Count Time: 600 minutes
Report Basis: Unfiltered

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

Analysis ReqCode: 309

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13981-15-2	Cm-244	0.0015 +/- 0.0077	0.015	0.05	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.930	pCi/l	74.3	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

Data Package ID: CM0805195-1



Paragon Analytics

Radiochemistry Case Narrative

Isotopic Americium

NMED DOE Oversight Bureau

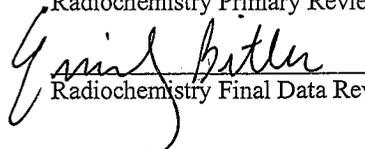
05.21.08-567(HWB SCI-1)

PA WO 0805195

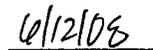
1. This report consists of the analytical results for one water sample received by Paragon on 05/23/08.
2. This sample was prepared according to procedures PA SOP776R11, PA SOP778R12, and PA SOP751R2. Due to low client detection limits, this sample was prepared at a reduced aliquot of 180ml.
3. The sample was analyzed for the presence of ^{241}Am according to procedure PA SOP714R11. The analysis was completed on 06/02/08.
4. The analysis results for this sample are reported in units of pCi/L. The water sample was not filtered prior to analysis.
5. Due to insufficient sample volume, a laboratory control sample duplicate (LCSD) was prepared in lieu of a prep batch duplicate.
6. Americium-241 activity is reported in the associated method blank above the minimum detectable concentration value. The measured blank activity is below the requested MDC of 0.05 pCi/L. Results are acceptable according to PA SOP715R15, and are submitted without further qualification. This sample has been flagged with a "B3" qualifier.
7. No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.


Linda Arend
Radiochemistry Primary Reviewer


Yvonne Butler
Radiochemistry Final Data Review


Date


Date

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4		RAD ONLY	<input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>14</u>			
Background µR/hr reading: <u>13</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference

To
 Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service Packages up to 150 lbs.
 1 FedEx Priority Overnight
 Next business morning** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 5 FedEx Standard Overnight
 Next business afternoon* Saturday Delivery NOT available.
 6 FedEx First Overnight
 Earliest next business morning delivery to select locations* Saturday Delivery NOT available.
 3 FedEx 2Day
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 20 FedEx Express Saver
 Third business day** Saturday Delivery NOT available.
 * To most locations. FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs.
 7 FedEx 1Day Freight*
 Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 8 FedEx 2Day Freight
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 83 FedEx 3Day Freight
 Third business day** Saturday Delivery NOT available.
 * Call for Confirmation ** To most locations.

5 Packaging
 6 FedEx Envelope*
 2 FedEx Pak*
 Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
 4 FedEx Tube
 1 Other
 * Declared value limit \$500.

6 Special Handling Include FedEx address in Section 3.
 3 SATURDAY Delivery
 Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
 1 HOLD Weekday at FedEx Location
 Not available for FedEx First Overnight.
 31 HOLD Saturday at FedEx Location
 Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
 Does this shipment contain dangerous goods?
 One box must be checked.
 No 4 Yes
 As per attached Shipper's Declaration. Yes Shipper's Declaration not required.
 6 Dry Ice
 Dry Ice 3, UN 1845 _____ kg
 Cargo Aircraft Only
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.
 1 Sender Acct. No. in Section 1 will be billed.
 2 Recipient
 3 Third Party
 4 Credit Card
 5 Cash/Check

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

No Signature Required
 Package may be left without obtaining a signature for delivery.
 10 Direct Signature
 Anyone at recipient's address may sign for delivery. Fee applies.
 34 Indirect Signature
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.
 Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Isotopic Americium By Alpha Spectroscopy

PAI 714 Rev 11

Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3MB

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 02-Jun-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3B
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14596-10-2	Am-241	0.0047 +/- 0.0058	0.0032	0.05	B3

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.855	pCi/l	68.4	30 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: AM0805195-1

Isotopic Americium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCS

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 02-Jun-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3B
Count Time: 1000 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	1.23 +/- 0.230	0.0195	1.24	99.3	79 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.485	pCi/l	38.8	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: AM0805195-1

Isotopic Americium By Alpha Spectroscopy

PAI 714 Rev 11

Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3B
Count Time: 600 minutes

Final Aliquot: 1800 ml
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	1.19 +/- 0.215	0.0236	1.24	95.6	79 - 118	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.964	pCi/l	77.1	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS Recovery within control limits.
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: AM0805195-1

Isotopic Americium By Alpha Spectroscopy

PAI 714 Rev 11

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	
Lab ID:	AS080527-3LCSD

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 27-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3B
Count Time: 600 minutes

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
14596-10-2	Am-241	1.2 +/- 0.23	1.2 +/- 0.22	0.14	2.13	P

Comments:

Duplicate Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- D - DER is greater than Control Limit of 2.13
- LT - Result is less than Request MDC, greater than sample specific MDC
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: AM0805195-1

Isotopic Americium By Alpha Spectroscopy

PAI 714 Rev 11

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-RAD
Lab ID:	0805195-5

Sample Matrix: WATER
Prep SOP: PAI 778 Rev 12
Date Collected: 21-May-08
Date Prepared: 27-May-08
Date Analyzed: 30-May-08

Prep Batch: AS080527-3
QCBatchID: AS080527-3-1
Run ID: AS080527-3B
Count Time: 600 minutes
Report Basis: Unfiltered

Final Aliquot: 1800 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: Spectrum #1

Analysis ReqCode: 309

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14596-10-2	Am-241	0.0046 +/- 0.0078	0.012	0.05	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Am-243	1.251	0.930	pCi/l	74.3	30 - 110 %	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

Data Package ID: AM0805195-1

Paragon Analytics

GC/MS Volatiles Case Narrative

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

Order Number - 0805195

1. This report consists of 1 water sample. The sample was received cool and intact by Paragon on 05/23/2008. All aqueous samples were free of headspace prior to analysis.
2. The sample was prepared according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared by purging 10 mL using purge and trap procedures based on Method 5030C.
3. The sample was analyzed using GC/MS with an RTX-624 capillary column according to Paragon Standard Operating Procedure 525 Revision 12 based on SW-846 Method 8260B. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria for SPCC's and CCC's were met. If average response factors were used in the initial calibration, %RSD was $\leq 15\%$. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥ 0.99 .
5. All initial calibrations are verified by comparing a second source standard calibration verification (ICV) against the calibration curve. All compounds in the second source verification had a %D of less than 25%.
6. All criteria for SPCC's and CCC's were met in daily (continuing) calibration verifications (CCV).
7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, Paragon has designated its volatile laboratory as a restricted access area. In addition,

the laboratory has been equipped with a dedicated, air intake and exhaust system that operates under positive pressure in order to minimize cross contamination of these compounds. Due to fluctuations in ambient laboratory conditions, reported sample values for common laboratory contaminants may be due to lab contamination even if the compound in question is not detected in the associated method blank.

All method blank criteria were met.

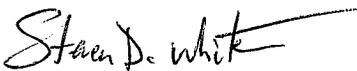
8. All laboratory control spike and laboratory control spike duplicate recoveries and RPDs were within the acceptance criteria.
9. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.
10. The sample was analyzed within the established holding time.
11. All surrogate recoveries were within acceptance criteria.
12. All internal standard recoveries were within acceptance criteria.
13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in Paragon Analytics Standard Operating Procedure 939 Revision 3.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Sharon L. Jobs
Organics Primary Data Reviewer

6-6-08
Date



Steven D. White
Organics Final Data Reviewer

6-6-08
Date

Paragon Analytics
Data Qualifier Flags
Chromatography and Mass Spectrometry

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- *:** This flag indicates that a spike recovery is equal to or outside the control criteria used.
- +:** This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>14</u>			
Background µR/hr reading: <u>13</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service Packages up to 150 lbs.
 1 FedEx Priority Overnight
 5 FedEx Standard Overnight
 6 FedEx First Overnight
 3 FedEx 2Day
 20 FedEx Express Saver
 83 FedEx 3Day Freight

4b Express Freight Service Packages over 150 lbs.
 7 FedEx 1Day Freight
 8 FedEx 2Day Freight
 83 FedEx 3Day Freight
 5 Packaging
 6 FedEx Envelope
 2 FedEx Pak
 4 FedEx Tube
 1 Other

6 Special Handling
 3 SATURDAY Delivery
 1 HOLD Weekday at FedEx Location
 31 HOLD Saturday at FedEx Location
 No
 4 Yes
 6 Dry Ice
 Cargo Aircraft Only

7 Payment Bill to:
 1 Sender
 2 Recipient
 3 Third Party
 4 Credit Card
 5 Cash/Check
 Total Packages: [blank]
 Total Weight: 5
 Total Charges: [blank]

8 NEW Residential Delivery Signature Options
 No Signature Required
 10 Direct Signature
 34 Indirect Signature
 Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Handwritten: 14, 5.8°C

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: VL080529-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 29-May-08

Date Analyzed: 29-May-08

Prep Method: SW5030 Rev C

Prep Batch: VL080529-3

QCBatchID: VL080529-3-2

Run ID: VL080529-3A

Cleanup: NONE

Basis: N/A

File Name: C10648

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: ug/l

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: VL080529-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 29-May-08
Date Analyzed: 29-May-08
Prep Method: SW5030 Rev C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: N/A
File Name: C10648

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: VL080529-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 29-May-08
Date Analyzed: 29-May-08
Prep Method: SW5030 Rev C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: N/A
File Name: C10648

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.1		25	100	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	22.7		25	91	80 - 124
2037-26-5	TOLUENE-D8	28.4		25	114	81 - 119

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-VOC
Lab ID:	0805195-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 21-May-08
Date Extracted: 29-May-08
Date Analyzed: 29-May-08
Prep Method: SW5030 Rev C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: As Received
File Name: C10651

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

Analysis ReqCode: 101

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	0.53	1	J	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-VOC
Lab ID:	0805195-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 21-May-08
Date Extracted: 29-May-08
Date Analyzed: 29-May-08
Prep Method: SW5030 Rev C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: As Received
File Name: C10651

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

Analysis ReqCode: 101

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-VOC
Lab ID:	0805195-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 21-May-08
Date Extracted: 29-May-08
Date Analyzed: 29-May-08
Prep Method: SW5030 Rev C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: As Received
File Name: C10651

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

Analysis ReqCode: 101

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	27.4		25	110	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	24.4		25	97	80 - 124
2037-26-5	TOLUENE-D8	24.8		25	99	81 - 119

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: VL080529-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/29/2008
Date Analyzed: 05/29/2008
Prep Method: SW5030C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: N/A
File Name: C10645

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
75-35-4	1,1-DICHLOROETHENE	10	10.1	1		101	75 - 126%
71-43-2	BENZENE	10	10.4	1		104	82 - 122%
79-01-6	TRICHLOROETHENE	10	10.6	1		106	82 - 121%
108-88-3	TOLUENE	10	9.99	1		100	83 - 121%
108-90-7	CHLOROBENZENE	10	10.6	1		106	82 - 121%

Lab ID: VL080529-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/29/2008
Date Analyzed: 05/29/2008
Prep Method: SW5030C

Prep Batch: VL080529-3
QCBatchID: VL080529-3-2
Run ID: VL080529-3A
Cleanup: NONE
Basis: N/A
File Name: C10646

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: ug/l
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
75-35-4	1,1-DICHLOROETHENE	10	9.85	1		98	20	3
71-43-2	BENZENE	10	10	1		100	20	4
79-01-6	TRICHLOROETHENE	10	10.4	1		104	20	2
108-88-3	TOLUENE	10	9.68	1		97	20	3
108-90-7	CHLOROBENZENE	10	9.93	1		99	20	7

Data Package ID: VL0805195-1

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25	99		101		78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	25	92		96		80 - 124
2037-26-5	TOLUENE-D8	25	102		94		81 - 119

Data Package ID: VL0805195-1

Date Printed: Wednesday, June 04, 2008

Paragon Analytics

LIMS Version: 6.153A

Page 2 of 2

Paragon Analytics

GC/MS Semivolatiles Case Narrative

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

Order Number - 0805195

1. This report consists of 1 water sample. The sample was received cool and intact on 05/23/2008.
2. The sample was prepared and analyzed according to SW-846, 3rd Edition protocol utilizing Paragon Analytics Standard Operating Procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, according to SW-846 Method 3520C utilizing Paragon Analytics Standard Operating Procedure 617 Revision 13.
3. The extracts were analyzed using GC/MS with a DB-5.625 capillary column according to Paragon Analytics Standard Operating Procedure 506 Revision 15 based on SW-846 Method 8270D. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria for SPCC's and CCC's were met. If average response factors were used in the initial calibration, %RSD was $\leq 15\%$. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥ 0.99 .
5. All initial calibration standards are verified by comparing a second source standard initial calibration verification (ICV) against the calibration curve. All compounds in the second source verification had a %D of less than 25%.
6. All SPCC and CCC criteria were met in each of the daily (continuing) calibration verifications.
7. All method blank criteria were met.

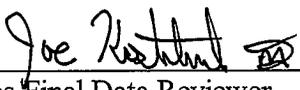
8. All laboratory control spike and laboratory control spike duplicate recoveries and RPDs were within the acceptance criteria.
9. Since a sample from this Order Number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.
10. The sample was extracted and analyzed within the established holding time.
11. All surrogate recoveries were within acceptance criteria.
12. All internal standard recoveries were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Sharon D. Jobes
Organics Primary Data Reviewer

6-19-08
Date



Joe Rostand
Organics Final Data Reviewer

June 17, 2008
Date

***Paragon Analytics
Data Qualifier Flags
Chromatography and Mass Spectrometry***

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows: (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- ***: This flag indicates that a spike recovery is equal to or outside the control criteria used.
- +**: This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	<input checked="" type="radio"/> #4	RAD ONLY <input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank]
 Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank]
 Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service Packages up to 150 lbs.
 1 FedEx Priority Overnight
 Next business morning* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 5 FedEx Standard Overnight
 Next business afternoon* Saturday Delivery NOT available.
 6 FedEx First Overnight
 Earliest next business morning delivery to select locations* Saturday Delivery NOT available.
 3 FedEx 2Day
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 20 FedEx Express Saver
 Third business day* Saturday Delivery NOT available.
 * To most locations. FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs.
 7 FedEx 1Day Freight*
 Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 8 FedEx 2Day Freight
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 83 FedEx 3Day Freight
 Third business day** Saturday Delivery NOT available.
 * Call for Confirmation. ** To most locations.

5 Packaging
 6 FedEx Envelope*
 2 FedEx Pak*
 Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
 4 FedEx Tube
 1 Other
 * Declared value limit \$500.

6 Special Handling Include FedEx address in Section 3.
 3 SATURDAY Delivery
 Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
 1 HOLD Weekday at FedEx Location
 Not available for FedEx First Overnight.
 31 HOLD Saturday at FedEx Location
 Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
 Does this shipment contain dangerous goods?
 One box must be checked.
 No 4 Yes
 As per attached Shipper's Declaration. Yes Shipper's Declaration not required.
 6 Dry Ice
 Dry Ice 3, UN 1845 _____ kg
 Cargo Aircraft Only
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.
 1 Sender Acct. No. in Section 1 will be billed.
 2 Recipient
 3 Third Party
 4 Credit Card
 5 Cash/Check

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.
 No Signature Required
 Package may be left without obtaining a signature for delivery.
 10 Direct Signature
 Anyone at recipient's address may sign for delivery. Fee applies.
 34 Indirect Signature
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.
 Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



8604 4512 4758

Handwritten: 14, 5.80

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: EX080527-8MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-May-08
Date Analyzed: 30-May-08
Prep Method: SW3520 Rev C

Prep Batch: EX080527-8
QCBatchID: EX080527-8-2
Run ID: SV080530-3
Cleanup: NONE
Basis: N/A
File Name: R9098

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
123-91-1	1,4-DIOXANE	1	10	10	U	
110-86-1	PYRIDINE	1	10	10	U	
62-75-9	N-NITROSODIMETHYLAMINE	1	10	10	U	
62-53-3	ANILINE	1	10	10	U	
108-95-2	PHENOL	1	10	10	U	
111-44-4	BIS(2-CHLOROETHYL)ETHER	1	10	10	U	
95-57-8	2-CHLOROPHENOL	1	10	10	U	
541-73-1	1,3-DICHLOROBENZENE	1	10	10	U	
106-46-7	1,4-DICHLOROBENZENE	1	10	10	U	
95-50-1	1,2-DICHLOROBENZENE	1	10	10	U	
100-51-6	BENZYL ALCOHOL	1	10	10	U	
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	1	10	10	U	
95-48-7	2-METHYLPHENOL	1	10	10	U	
621-64-7	N-NITroso-DI-N-PROPYLAMINE	1	10	10	U	
108-39-4	3+4-METHYLPHENOL	1	10	10	U	
67-72-1	HEXACHLOROETHANE	1	10	10	U	
98-95-3	NITROBENZENE	1	10	10	U	
78-59-1	ISOPHORONE	1	10	10	U	
88-75-5	2-NITROPHENOL	1	10	10	U	
105-67-9	2,4-DIMETHYLPHENOL	1	10	10	U	
111-91-1	BIS(2-CHLOROETHOXY)METHANE	1	10	10	U	
120-83-2	2,4-DICHLOROPHENOL	1	10	10	U	
65-85-0	BENZOIC ACID	1	50	50	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	10	10	U	
91-20-3	NAPHTHALENE	1	10	10	U	
106-47-8	4-CHLOROANILINE	1	10	10	U	
87-68-3	HEXACHLOROBUTADIENE	1	10	10	U	

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: EX080527-8MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-May-08
Date Analyzed: 30-May-08
Prep Method: SW3520 Rev C

Prep Batch: EX080527-8
QCBatchID: EX080527-8-1
Run ID: SV080530-3
Cleanup: NONE
Basis: N/A
File Name: R9098

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

59-50-7	4-CHLORO-3-METHYLPHENOL	1	10	10	U	
91-57-6	2-METHYLNAPHTHALENE	1	10	10	U	
77-47-4	HEXACHLOROCYCLOPENTADIENE	1	10	10	U	
88-06-2	2,4,6-TRICHLOROPHENOL	1	10	10	U	
95-95-4	2,4,5-TRICHLOROPHENOL	1	10	10	U	
91-58-7	2-CHLORONAPHTHALENE	1	10	10	U	
88-74-4	2-NITROANILINE	1	20	20	U	
131-11-3	DIMETHYL PHTHALATE	1	10	10	U	
606-20-2	2,6-DINITROTOLUENE	1	10	10	U	
208-96-8	ACENAPHTHYLENE	1	10	10	U	
99-09-2	3-NITROANILINE	1	20	20	U	
83-32-9	ACENAPHTHENE	1	10	10	U	
51-28-5	2,4-DINITROPHENOL	1	20	20	U	
100-02-7	4-NITROPHENOL	1	20	20	U	
132-64-9	DIBENZOFURAN	1	10	10	U	
121-14-2	2,4-DINITROTOLUENE	1	10	10	U	
84-66-2	DIETHYL PHTHALATE	1	10	10	U	
86-73-7	FLUORENE	1	10	10	U	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	1	10	10	U	
100-01-6	4-NITROANILINE	1	20	20	U	
103-33-3	AZOBENZENE	1	10	10	U	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1	20	20	U	
86-30-6	N-NITROSODIPHENYLAMINE	1	10	10	U	
101-55-3	4-BROMOPHENYL PHENYL ETHER	1	10	10	U	
118-74-1	HEXACHLOROBENZENE	1	10	10	U	
58-90-2	2,3,4,6-TETRACHLOROPHENOL	1	10	10	U	
87-86-5	PENTACHLOROPHENOL	1	20	20	U	
85-01-8	PHENANTHRENE	1	10	10	U	
120-12-7	ANTHRACENE	1	10	10	U	

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: EX080527-8MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-May-08
Date Analyzed: 30-May-08
Prep Method: SW3520 Rev C

Prep Batch: EX080527-8
QCBatchID: EX080527-8-1
Run ID: SV080530-3
Cleanup: NONE
Basis: N/A
File Name: R9098

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

86-74-8	CARBAZOLE	1	10	10	U	
84-74-2	DI-N-BUTYL PHTHALATE	1	10	10	U	
206-44-0	FLUORANTHENE	1	10	10	U	
129-00-0	PYRENE	1	10	10	U	
85-68-7	BUTYL BENZYL PHTHALATE	1	10	10	U	
56-55-3	BENZO(A)ANTHRACENE	1	10	10	U	
91-94-1	3,3'-DICHLOROBENZIDINE	1	10	10	U	
218-01-9	CHRYSENE	1	10	10	U	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1	10	10	U	
117-84-0	DI-N-OCTYL PHTHALATE	1	10	10	U	
205-99-2	BENZO(B)FLUORANTHENE	1	10	10	U	
207-08-9	BENZO(K)FLUORANTHENE	1	10	10	U	
50-32-8	BENZO(A)PYRENE	1	10	10	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	10	10	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	10	10	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	10	10	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	55.4		75	74	23 - 100
321-60-8	2-FLUOROBIPHENYL	43.4		50	87	21 - 106
367-12-4	2-FLUOROPHENOL	62		75	83	21 - 100
4165-60-0	NITROBENZENE-D5	37.2		50	74	34 - 111
4165-62-2	PHENOL-D5	58.7		75	78	15 - 104
1718-51-0	TERPHENYL-D14	43.3		50	87	33 - 111

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-SVOC
Lab ID:	0805195-4

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 21-May-08

Date Extracted: 27-May-08

Date Analyzed: 30-May-08

Prep Method: SW3520 Rev C

Prep Batch: EX080527-8

QCBatchID: EX080527-8-2

Run ID: SV080530-3

Cleanup: NONE

Basis: As Received

File Name: R9104

Sample Aliquot: 975 ml

Final Volume: 1 ml

Result Units: UG/L

Clean DF: 1

Analysis ReqCode: 115

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
123-91-1	1,4-DIOXANE	1	10	10	U	
110-86-1	PYRIDINE	1	10	10	U	
62-75-9	N-NITROSODIMETHYLAMINE	1	10	10	U	
62-53-3	ANILINE	1	10	10	U	
108-95-2	PHENOL	1	10	10	U	
111-44-4	BIS(2-CHLOROETHYL)ETHER	1	10	10	U	
95-57-8	2-CHLOROPHENOL	1	10	10	U	
541-73-1	1,3-DICHLOROBENZENE	1	10	10	U	
106-46-7	1,4-DICHLOROBENZENE	1	10	10	U	
95-50-1	1,2-DICHLOROBENZENE	1	10	10	U	
100-51-6	BENZYL ALCOHOL	1	10	10	U	
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	1	10	10	U	
95-48-7	2-METHYLPHENOL	1	10	10	U	
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	1	10	10	U	
108-39-4	3+4-METHYLPHENOL	1	10	10	U	
67-72-1	HEXACHLOROETHANE	1	10	10	U	
98-95-3	NITROBENZENE	1	10	10	U	
78-59-1	ISOPHORONE	1	10	10	U	
88-75-5	2-NITROPHENOL	1	10	10	U	
105-67-9	2,4-DIMETHYLPHENOL	1	10	10	U	
111-91-1	BIS(2-CHLOROETHOXY)METHANE	1	10	10	U	
120-83-2	2,4-DICHLOROPHENOL	1	10	10	U	
65-85-0	BENZOIC ACID	1	51	51	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	10	10	U	
91-20-3	NAPHTHALENE	1	10	10	U	
106-47-8	4-CHLOROANILINE	1	10	10	U	
87-68-3	HEXACHLOROBUTADIENE	1	10	10	U	

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-SVOC
Lab ID:	0805195-4

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 21-May-08
Date Extracted: 27-May-08
Date Analyzed: 30-May-08
Prep Method: SW3520 Rev C

Prep Batch: EX080527-8
QCBatchID: EX080527-8-1
Run ID: SV080530-3
Cleanup: NONE
Basis: As Received
File Name: R9104

Sample Aliquot: 975 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

Analysis ReqCode: 115

59-50-7	4-CHLORO-3-METHYLPHENOL	1	10	10	U	
91-57-6	2-METHYLNAPHTHALENE	1	10	10	U	
77-47-4	HEXACHLOROCYCLOPENTADIENE	1	10	10	U	
88-06-2	2,4,6-TRICHLOROPHENOL	1	10	10	U	
95-95-4	2,4,5-TRICHLOROPHENOL	1	10	10	U	
91-58-7	2-CHLORONAPHTHALENE	1	10	10	U	
88-74-4	2-NITROANILINE	1	21	21	U	
131-11-3	DIMETHYL PHTHALATE	1	10	10	U	
606-20-2	2,6-DINITROTOLUENE	1	10	10	U	
208-96-8	ACENAPHTHYLENE	1	10	10	U	
99-09-2	3-NITROANILINE	1	21	21	U	
83-32-9	ACENAPHTHENE	1	10	10	U	
51-28-5	2,4-DINITROPHENOL	1	21	21	U	
100-02-7	4-NITROPHENOL	1	21	21	U	
132-64-9	DIBENZOFURAN	1	10	10	U	
121-14-2	2,4-DINITROTOLUENE	1	10	10	U	
84-66-2	DIETHYL PHTHALATE	1	10	10	U	
86-73-7	FLUORENE	1	10	10	U	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	1	10	10	U	
100-01-6	4-NITROANILINE	1	21	21	U	
103-33-3	AZOBENZENE	1	10	10	U	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1	21	21	U	
86-30-6	N-NITROSODIPHENYLAMINE	1	10	10	U	
101-55-3	4-BROMOPHENYL PHENYL ETHER	1	10	10	U	
118-74-1	HEXACHLOROENZENE	1	10	10	U	
58-90-2	2,3,4,6-TETRACHLOROPHENOL	1	10	10	U	
87-86-5	PENTACHLOROPHENOL	1	21	21	U	
85-01-8	PHENANTHRENE	1	10	10	U	
120-12-7	ANTHRACENE	1	10	10	U	

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Field ID:	SCI-1-5-21-08-SVOC
Lab ID:	0805195-4

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 21-May-08
Date Extracted: 27-May-08
Date Analyzed: 30-May-08
Prep Method: SW3520 Rev C

Prep Batch: EX080527-8
QCBatchID: EX080527-8-1
Run ID: SV080530-3
Cleanup: NONE
Basis: As Received
File Name: R9104

Sample Aliquot: 975 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

Analysis ReqCode: 115

Sample ID	Compound Name	Concentration (ug/L)	Recovery (%)	Flag	Unit
86-74-8	CARBAZOLE	1	10	U	
84-74-2	DI-N-BUTYL PHTHALATE	1	10	U	
206-44-0	FLUORANTHENE	1	10	U	
129-00-0	PYRENE	1	10	U	
85-68-7	BUTYL BENZYL PHTHALATE	1	10	U	
56-55-3	BENZO(A)ANTHRACENE	1	10	U	
91-94-1	3,3'-DICHLOROBENZIDINE	1	10	U	
218-01-9	CHRYSENE	1	10	U	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1	10	U	
117-84-0	DI-N-OCTYL PHTHALATE	1	10	U	
205-99-2	BENZO(B)FLUORANTHENE	1	10	U	
207-08-9	BENZO(K)FLUORANTHENE	1	10	U	
50-32-8	BENZO(A)PYRENE	1	10	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	10	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	10	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	10	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	57.4		76.9	75	23 - 100
321-60-8	2-FLUOROBIPHENYL	39.6		51.3	77	21 - 106
367-12-4	2-FLUOROPHENOL	56		76.9	73	21 - 100
4165-60-0	NITROBENZENE-D5	33.5		51.3	65	34 - 111
4165-62-2	PHENOL-D5	54.1		76.9	70	15 - 104
1718-51-0	TERPHENYL-D14	38.9		51.3	76	33 - 111

Data Package ID: SV0805195-1

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: EX080527-8LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05/27/2008

Date Analyzed: 05/30/2008

Prep Method: SW3520C

Prep Batch: EX080527-8

QCBatchID: EX080527-8-2

Run ID: SV080530-3

Cleanup: NONE

Basis: N/A

File Name: R9099

Sample Aliquot: 1000 ml

Final Volume: 1 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
123-91-1	1,4-DIOXANE	60.1	40.5	10		67	30 - 130%
108-95-2	PHENOL	75	55.3	10		74	49 - 101%
95-57-8	2-CHLOROPHENOL	75	60.5	10		81	37 - 106%
106-46-7	1,4-DICHLOROBENZENE	50	36.7	10		73	32 - 98%
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	50	39.4	10		79	34 - 128%
120-82-1	1,2,4-TRICHLOROBENZENE	50	36.3	10		73	37 - 107%
59-50-7	4-CHLORO-3-METHYLPHENOL	75	60	10		80	47 - 111%
83-32-9	ACENAPHTHENE	50	37.4	10		75	47 - 108%
100-02-7	4-NITROPHENOL	75	50.8	20		68	21 - 119%
121-14-2	2,4-DINITROTOLUENE	50	38.4	10		77	51 - 118%
87-86-5	PENTACHLOROPHENOL	75	50.7	20		68	38 - 117%
129-00-0	PYRENE	50	40.7	10		81	49 - 128%

Data Package ID: SV0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

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LIMS Version: 6.160A

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: EX080527-8LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05/27/2008

Date Analyzed: 05/30/2008

Prep Method: SW3520C

Prep Batch: EX080527-8

QCBatchID: EX080527-8-2

Run ID: SV080530-3

Cleanup: NONE

Basis: N/A

File Name: R9100

Sample Aliquot: 1000 ml

Final Volume: 1 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
123-91-1	1,4-DIOXANE	60.1	35.8	10		60	50	12
108-95-2	PHENOL	75	53.3	10		71	40	4
95-57-8	2-CHLOROPHENOL	75	57.8	10		77	42	5
106-46-7	1,4-DICHLOROBENZENE	50	35.3	10		71	50	4
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	50	38.7	10		77	44	2
120-82-1	1,2,4-TRICHLOROBENZENE	50	35.8	10		72	42	1
59-50-7	4-CHLORO-3-METHYLPHENOL	75	57.9	10		77	35	4
83-32-9	ACENAPHTHENE	50	37.6	10		75	43	0
100-02-7	4-NITROPHENOL	75	50.3	20		67	48	1
121-14-2	2,4-DINITROTOLUENE	50	39.6	10		79	40	3
87-86-5	PENTACHLOROPHENOL	75	47.8	20		64	44	6
129-00-0	PYRENE	50	40.9	10		82	48	1

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	75	78		78		23 - 100
321-60-8	2-FLUOROBIPHENYL	50	83		83		21 - 106
367-12-4	2-FLUOROPHENOL	75	76		73		21 - 100
4165-60-0	NITROBENZENE-D5	50	69		70		34 - 111
4165-62-2	PHENOL-D5	75	75		72		15 - 104
1718-51-0	TERPHENYL-D14	50	77		78		33 - 111

Data Package ID: SV0805195-1

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

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Paragon Analytics

Perchlorate Case Narrative

NMED DOE Oversight Bureau

05.21.08-567(HWB SCI-1)

Order Number - 0805195

1. This report consists of 1 water sample. The sample was received cool and intact by Paragon on 05/23/2008. As prescribed by the method, the aqueous sample contained headspace upon receipt.
2. The sample was prepared and analyzed according to SW-846, 3rd Edition procedures, method SW6850 Revision 0 and PA SOP448R0.
3. The preparation batch included a method blank, laboratory control sample, matrix spike, and sample duplicate. Since a sample from this Order Number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.
4. The analytical batch included an initial calibration, an initial calibration verification and blank (ICV and ICB), continuing calibration verifications (CCV) and Limit of Detection verifications (LODV). In addition, isotope ratios, relative retention times (RRT) and internal standards for each injection were monitored.
5. All analytical QC were within the acceptance criteria.
6. A sample dilution was not required for the requested analyses.
7. The sample was prepared and analyzed within the established holding time.
8. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in Paragon Analytics Standard Operating Procedure 939 Revision 3.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Mindy Norton
Mindy Norton
Organics Primary Data Reviewer

6.18.08
Date

Richard D. Jeff
Organics Final Data Reviewer

6.19.08
Date

Paragon Analytics, Inc.
Data Qualifier Flags
Chromatography and Mass Spectrometry

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the data indicate the presence of a compound that meets the identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- ***: This flag indicates that a spike recovery is outside the control criteria.
- +**: This flag indicates that the relative percent difference (RPD) exceeds the control criteria.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0805195

Client Name: NMED DOE Oversight Bureau

Client Project Name:

Client Project Number: 05.21.08-567(HWB SCI-1)

Client PO Number: 06-667-55-01754

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SCI-1-5-21-08-CIO4	0805195-1		WATER	21-May-08	11:50
SCI-1-5-21-08-MET	0805195-2		WATER	21-May-08	11:50
SCI-1-5-21-08-VOC	0805195-3		WATER	21-May-08	11:50
SCI-1-5-21-08-SVOC	0805195-4		WATER	21-May-08	11:50
SCI-1-5-21-08-RAD	0805195-5		WATER	21-May-08	11:50

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: NMED

Workorder No: 0805195

Project Manager: LS

Initials: CA Date: 5-23-08

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ___ < green pea ___ > green pea	<input checked="" type="radio"/> N/A CA 5-23-08	<input checked="" type="radio"/> YES	NO
15. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source: note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice ?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES
Cooler #: <u>1</u>			
Temperature (°C): <u>5.8</u>			
No. of custody seals on cooler: <u>0</u>			
DOT Survey/ Acceptance Information	External µR/hr reading: <u>14</u>		
	Background µR/hr reading: <u>13</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no. see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: LS 5/23/08

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

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0200

Form 10 No.

0805195

FedEx Retrieval Copy

From
 Date: 2-28
 Sender's FedEx Account Number: [blank]
 Sender's Name: [blank] Phone: [blank]
 Company: [blank]
 Address: [blank] Dept./Floor/Suite/Room: [blank]
 City: [blank] State: [blank] ZIP: [blank]

Your Internal Billing Reference
 To Recipient's Name: [blank] Phone: [blank]
 Company: [blank]
 Recipient's Address: [blank] Dept./Floor/Suite/Room: [blank]
 Address: [blank]
 City: [blank] State: [blank] ZIP: [blank]

4a Express Package Service *Packages up to 150 lbs.*

1 **FedEx Priority Overnight**
 Next business morning* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 **FedEx Standard Overnight**
 Next business afternoon* Saturday Delivery NOT available.

6 **FedEx First Overnight**
 Earliest next business morning delivery to select locations* Saturday Delivery NOT available.

3 **FedEx 2Day**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx Envelope rate not available. Minimum charge: One-pound rate.

20 **FedEx Express Saver**
 Third business day* Saturday Delivery NOT available.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

7 **FedEx 1Day Freight***
 Next business day** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

8 **FedEx 2Day Freight**
 Second business day** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

83 **FedEx 3Day Freight**
 Third business day** Saturday Delivery NOT available.

* Call for Confirmation ** To most locations.

5 Packaging

6 **FedEx Envelope***

2 **FedEx Pak***
 Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sticker Pak.

4 **FedEx Tube**

1 **Other**

* Declared value limit \$500.

6 Special Handling *Include FedEx address in Section 3.*

3 **SATURDAY Delivery**
 Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.

1 **HOLD Weekday at FedEx Location**
 Not available for FedEx First Overnight.

31 **HOLD Saturday at FedEx Location**
 Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods?
 One box must be checked.
 No 4 Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required.

6 **Dry Ice**
 Dry Ice 3, UN 1845 _____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging. **Cargo Aircraft Only**

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No.

1 **Sender** Acct. No. in Section 1 will be billed.

2 **Recipient**

3 **Third Party**

4 **Credit Card**

5 **Cash/Check**

Total Packages	Total Weight	Total Charges
	5	
		Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

8 NEW Residential Delivery Signature Options *If you require a signature, check Direct or Indirect.*

No Signature Required
 Package may be left without obtaining a signature for delivery.

10 **Direct Signature**
 Anyone at recipient's address may sign for delivery. Fee applies.

34 **Indirect Signature**
 If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

Rev. Date 8/95-Part #150281-©1994-2005 FedEx-PRINTED IN U.S.A. SRY



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Handwritten: 140-5.8°C

Perchlorates by LCMS/MS

Method SW6850

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: LM080530-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 30-May-08

Date Analyzed: 30-May-08

Prep Method: METHOD

Prep Batch: LM080530-1

QCBatchID: LM080530-1-1

Run ID: LM080530-1A

Cleanup: NONE

Basis: N/A

File Name: PERC053008

Sample Aliquot: 2 ml

Final Volume: 2 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
14797-73-0	PERCHLORATE	1	0.05	0.05	U	

Data Package ID: *lm0805195-1*

Date Printed: Wednesday, June 18, 2008

Paragon Analytics

Page 1 of 1

LIMS Version: 6.160A

PERCHLORATE

Method SW6850

Sample Results

Lab Name: Paragon Analytics
Client Name: NMED DOE Oversight Bureau
Client Project ID: 05.21.08-567(HWB SCI-1)
Work Order Number: 0805195
Reporting Basis: As Received
Prep Method: METHOD
Final Volume: 2 ml
Matrix: WATER
Result Units: UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
SCI-1-5-21-08-CIO4	0805195-1	05/21/2008	05/30/2008	05/30/2008	N/A	1	1.3	0.05		2 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *Im0805195-1*

Perchlorates by LCMS/MS

Method SW6850

Laboratory Control Sample

Lab Name: Paragon Analytics

Work Order Number: 0805195

Client Name: NMED DOE Oversight Bureau

ClientProject ID: 05.21.08-567(HWB SCI-1)

Lab ID: LM080530-1LCS	Sample Matrix: WATER	Prep Batch: LM080530-1	Sample Aliquot: 2 ml
	% Moisture: N/A	QC Batch ID: LM080530-1-1	Final Volume: 2 ml
	Date Collected: N/A	Run ID: LM080530-1A	Result Units: UG/L
	Date Extracted: 05/30/2008	Cleanup: NONE	Clean DF: 1
	Date Analyzed: 05/30/2008	Basis: N/A	
	Prep Method: METHOD	File Name: PERC053008	

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
14797-73-0	PERCHLORATE	1	0.974	0.05		97	80 - 120%

Data Package ID: *lm0805195-1*